

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (currently amended) A secondary battery comprising an anode, a cathode, and a static acid electrolyte fluid, wherein ~~in which~~ oxygen and a dendrite-forming metal form a redox pair to provide current of the battery, and wherein the electrolyte further comprises a compound at a concentration effective to provide acidity to the electrolyte and to reduce dendrite formation of the metal during charging, wherein the cathode comprises a material that allows formation of oxygen during charging, and wherein the material is at least one of a Magnelli phase titanium suboxide and glassy carbon.
2. (Original) The battery of claim 1 wherein the dendrite-forming metal is zinc.
3. (Original) The battery of claim 1 wherein the compound comprises an organic acid.
4. (Original) The battery of claim 3 wherein the compound comprises methane sulfonic acid.
5. (Previously presented) The battery of claim 3 wherein the compound is selected from the group consisting of polyvinyl sulfonic acid, and polyvinyl sulfuric acid.
6. (Original) The battery of claim 1 further comprising a zinc brightener.
7. (Original) The battery of claim 6 wherein the zinc brightener is selected from the group consisting of an aromatic monocarboxylic acid, an aromatic aldehyde, and a polyhydric alcohol having ethoxylated or propoxylated hydroxyl groups.
8. (Original) The battery of claim 1 wherein the dendrite-forming metal forms a complex with the compound when the battery discharges.
9. (Original) The battery of claim 8 wherein the dendrite-forming metal is zinc, and wherein the compound comprises methane sulfonic acid.
10. (canceled)

11. (Original) The battery of claim 1 comprising a plurality of cells in which a bipolar electrode separates a first cell from a second cell, and in which at least one side of the bipolar electrode comprises a Magnelli phase titanium suboxide.
12. (Withdrawn) A secondary battery comprising an acid electrolyte and further comprising a redox pair comprising zinc and oxygen, and wherein the electrolyte further comprises methane sulfonic acid in an amount effective to reduce dendrite formation.
13. (Withdrawn) The secondary battery of claim 12 further comprising a separator separating an anolyte from a catholyte, wherein (a) the methane sulfonic acid is protonated in the anolyte and wherein (b) the methane sulfonic acid is deprotonated in the catholyte when the battery is charging.
14. (Withdrawn) The secondary battery of claim 12 wherein the oxygen is reduced on a cathode when the battery is charged, and wherein the cathode comprises at least one of a Magnelli phase titanium suboxide and glassy carbon.
15. (Withdrawn) The secondary battery of claim 12 comprising a plurality of cells in which a bipolar electrode separates a first cell from a second cell, and in which at least one side of the bipolar electrode comprises a Magnelli phase titanium suboxide.
16. (Withdrawn) A secondary battery comprising a static catholyte and a static acidic anolyte, and in which oxygen and a dendrite-forming metal form a redox pair, wherein at least one of the catholyte and the anolyte includes a dendrite-reducing acid thereby allowing use of the battery through at least 50 cycles at substantially unchanged battery performance.
17. (Withdrawn) The secondary battery of claim 16 wherein the dendrite-forming metal is zinc.
18. (Withdrawn) The secondary battery of claim 16 wherein the dendrite-reducing acid is selected from the group consisting of methane sulfonic acid, polyvinyl sulfonic acid, polyvinyl sulfuric acid, and sulfurous acid.

19. (Withdrawn) The battery of claim 16 wherein the oxygen is reduced on a cathode when the battery is charged, and wherein the cathode comprises at least one of a Magnelli phase titanium suboxide and glassy carbon.
20. (Withdrawn) The battery of claim 16 comprising a plurality of cells in which a bipolar electrode separates a first cell from a second cell, and in which at least one side of the bipolar electrode comprises a Magnelli phase titanium suboxide.
21. (currently amended) A zinc-air secondary battery comprising an anode, a cathode, and an acid electrolyte that further includes a compound selected from the group consisting of methane sulfonic acid, sulfamic acid, trifluoromethane sulfonic acid, polyvinyl sulfonic acid, and polyvinyl sulfuric acid, wherein the compound is present in the electrolyte at a concentration effective to provide acidity to the electrolyte and to reduce dendrite formation zinc during charging, wherein the cathode comprises a material that allows formation of oxygen during charging, and wherein the material is at least one of a Magnelli phase titanium suboxide and glassy carbon.
22. (Previously presented) The zinc-air secondary battery of claim 21 wherein the compound is methane sulfonic acid.
23. (Previously presented) The zinc-air secondary battery of claim 21 wherein the compound is present at a concentration of between 1M and 4M.
24. (Previously presented) The zinc-air secondary battery of claim 21 further comprising a bipolar electrode that comprises glassy carbon.